

## **AMENDMENTS TO THE SPECIFICATION**

Please replace the last paragraph on page 1, continuing to page 2, and the first full paragraph on page 2 with the following paragraphs rewritten in amendment format:

Upright frames are interconnected by beams 106,107 in pairs to form a row of bays as shown in Fig 2 herein. Pairs of beams 200,201 are spaced apart vertically in each bay at a number of levels to provide locations for the pallet or unit loads. Each pair of beams at each level can carry one, two or more unit loads depending on its length and strength. The strength, stiffness and stability of the racking is provided by the upright frames and their connections 202 to the concrete floor slab, both of which must be maintained within the ~~manufacturers~~ manufacturer's operating parameters in order to be safe.

In general, pallet racking is arranged to maximize the usage of available storage space, which means that the aisle spacing between adjacent runs of pallet racking is kept to a minimum consistent with achieving access to the racking for loading or unloading of the racking. By the very nature of its designed task, a mechanical handling equipment (MHE), such as a fork lift truck, must operate and ~~manoeuvre~~ maneuver within very close proximity to pallet racking equipment in order to transit, store and retrieve unit loads between and within the racks structure respectively. During these operations, there is a likelihood destructive dynamic impact forces between the moving MHE and the pallet racking may occur.

Please replace the first full paragraph on page 3 with the following paragraph rewritten in amendment format:

Although dominated by vision, operating an MHE is a highly cognitive task. It usually occurs in a visually cluttered environment, requires the simultaneous use of central and peripheral vision and involves relatively complex MHE-control activities. ~~Whilst~~ While functional differences between the central and peripheral visual fields are well documented, the linkage between the two is less understood. In a typical test of the visual field, the operator fixates on the point where the raised ~~palletised~~ palletized load is situated. Thus, a standard visual test cannot predict how efficiently an operator can use peripheral visual information in complex tasks such as operating MHE. Peripheral retinal sensitivity, under photopic and mesopic (artificial) lighting conditions, (such as is found in a typical warehouse environment) is considerably reduced compared to the central retina. This means[[,]] that for an object to be seen peripherally it would need to be of higher intensity than if it was to be detected centrally. This can easily be attributed to the distribution characteristics of the human photoreceptors (rods and cones) on the retina. It has been shown that peripheral retinal sensitivity may be impeded as the amount of information the subject is required to process mentally is increased. This visual field “narrowing” applies to the warehouse environment and other tasks, such as the simultaneous controlling of speed and direction of the MHE and its load, navigating with aisle signs and using in-MHE information systems.

Please replace the second full paragraph on page 4, continuing to page 5, with the following paragraph rewritten in amendment format:

Another type of column protector comprises a single piece ~~moulded~~ molded plastics shroud, having a flat outer face and straight side portions connected by rounded

portions so as to form a substantially “U” shaped single piece member which protects one side of a column post. Such protectors are fitted around a column by tensioned wire straps or bands and protect one side of the column. Where all round protection of the column or post is required, two such protectors can be fitted back to back around the post, and retained by longer wire straps or bands. However, this type of protector is bulky because it relies on a single ~~moulded~~-molded piece to absorb all impact forces, and therefore that ~~moulded~~-molded piece has to be relatively thick. This means that the rack needs to be spaced further apart to allow access for vehicles and mechanical handling equipment. Additionally, removal of the protectors for inspection of the column requires cutting of the straps and fitting new straps. With this type of known protector, serious damage to a column after an impact can go undetected because removal of the protector is not easy. An example of this type of impact protector is disclosed in US 6,242,070.

Please replace the last paragraph on page 5, continuing to page 6, with the following paragraph rewritten in amendment format:

The pallet racking upright protection device according to a specific embodiment disclosed herein self attaches to the front and lateral sides of an aisle facing rack upright. The composite protection device constitutes two or more major components. An outer component is made from a resilient elastomeric polymer based material that is semi tubular in shape. This outer component serves to deflect and diffuse kinetic energy of motion so as to prevent or ~~minimise~~-minimize impact damage to the upright and the frame's components therein. An internal component of the protection device is

made from a relatively less dense elastomeric material. This internal component is synergistic in form and function to the external component, and serves to receive and absorb and further diffuse the kinetic energy of motion from impacts and to promote the repositioning of the whole device to a position similar to before the impact occurrence.

Please replace the fourth full paragraph on page 6 with the following paragraph rewritten in amendment format:

wherein said outer shell is configured to fit around [[a]] said upright column, such that the outer shell retains to said column in a self attaching manner without [[he]] the need for any additional fixings, and such that, in use, said inner liner is retained between said outer shell and said column.

Please replace the fourth paragraph on page 12 with the following paragraph rewritten in amendment format:

~~Figures 10A and 10B~~ Figure 10 schematically depicts the column protector device of Fig. 3 in situ fitted to a column and illustrating movement of the outer shell of the device relative to the inner liner, when movement of the outer shell for fitment to and removal from the column, and for column inspection;

Please replace the third paragraph on page 15 with the following paragraph rewritten in amendment format:

The inner liner comprises [[a]] an elongate solid body 500 having an outer surface comprising a substantially cylindrical portion 501, and a substantially “U”

shaped channel portion 502, the substantially “U” shaped channel 502 residing within part of the substantially cylindrical shaper outer portion to provide first and second wall portions, 503, 504 respectively which face opposite each other. The “U” shaped channel comprises a substantially planar surface 506, which extends across and between opposite positions of the substantially part cylindrical outer surface 501, and arranged transversely to the planar channel, a first substantially flat planar wall surface 506 facing inwardly towards the center of the cylinder, and a second substantially flat planar wall surface 507 ~~[[407]]~~ facing opposite the first wall surface. The two planar wall surfaces oppose each other and are separated from each other by a width distance of the planar channel surface.

Please replace the second paragraph on page 21 with the following paragraph rewritten in amendment format:

Referring to ~~Figures 10A and 10B~~ Figure 10 herein, the outer shell 300 is then fitted over and around the column 300, at a position on the column above the inner liner, and then is slid down over the inner liner, so that the outer shell locates to partially enclose the column, as shown in Fig. 5 herein. The outer shell has a degree of flexibility such that it can be forced over the relatively wider part of the column upright, so that the column resides within the channel formed by the outer shell, and the peripheral edges 405, 406 lie adjacent the lateral sides of the column at a position where the column is relatively narrower.

Please replace the third paragraph on page 22 with the following paragraph rewritten in amendment format:

The impact forces, shown here as a vector 1103, comprise a first component 1104 in a direction normal to the front face of the column, and a second component 1105 in a direction parallel to the front face of the column, and second component 1105 in a direction parallel to the front face of the column. The energy of the impact is dissipated in the material of the outer shell and inner liner over a relatively longer distance [a] in the material of the inner liner and outer shell than is the case with a known prior art impact protector having a substantially square or rectangular shape, and an outer liner having a face parallel to the front of the column.

Please replace the fifth paragraph on page 24, continuing to page 25, with the following paragraph rewritten in amendment format:

Thirdly, in a modification of the device, a polycarbonate member in the form of an outer cover [1001] which fits over the outside of the outer shell ~~as shown in Figure 10A~~, or in the form of an elongate strip [1002] which slides down between the front member of the rack upright and the inner liner can be provided ~~as shown in Figure 10B~~. The polycarbonate strip serves the purpose of detecting impacts which exceed the design impact for which the column protector can safely absorb energy without the need to replace a column, or the polycarbonate member can be selected to detect impacts of an energy which will not significantly damage the column, but may require replacement of the column protector device after having absorbed such an impact. The polycarbonate member can be inspected for cracks or other damage which indicates

that column replacement or column protector replacement is necessary, and such inspection can be achieved either by direct visual inspection of the polycarbonate outer cover, without the need to remove the column protector from its column, or where provided as a strip, by sliding the polycarbonate strip from between the inner liner and the column for visual inspection, again, without the need to remove the column protector from the column.

Please replace the first and second paragraphs on page 26 with the following paragraphs rewritten in amendment format:

For each action there is always an equal and contrary reaction, ~~whilst~~ while the majority of the kinetic energy of motion is dispatched throughout the device, a portion of the kinetic energy is transmitted back to the body which initiated the impact forces, thereby, reducing the destructive kinetic energy of motion transmitted to the pallet racking upright.

The low profile of the device is such that once attached to the rack upright, the device does not prohibitively encroach or reduce the required safe operating clearance dimensions of the racking system. During field research, it was identified that all other known rack upright protectors detrimentally reduced required clearances, interfered with the loading and alighting of loads and in many instances became an instrument which caused damage to the rack upright, pallets, ~~palletised~~ palletized stock, MHE and the floor.

Please replace the fourth paragraph on page 26 and the last paragraph on page 26, continuing to page 27, with the following paragraphs rewritten in amendment format:

Further, the current embodiments ~~[[is]]~~ are manufactured with a material that is fully recyclable, non corrodible, is chemically resistant, does not ~~harbour~~ harbor the capacity for bacterial growth, does not and in fact prevents the occurrence of impact ignition sparks in flammable atmosphere and does not accommodate moisture retention. In preventing~~[[,]]~~ the paint work of the rack upright from being degraded or scratched, the device prevents the likelihood of the rack upright and MHE from rust and corrosion.

Due to the flexible and closing properties of the tubular profile, the current embodiments grasp~~[[s]]~~ the rack upright ~~it protects~~ thus negating the need to drill and fix mechanical or chemical floor fixing bolts or devices. Therefore, the important integrity of the floor foundation the rack is built upon is not compromised as well as avoiding costly installation and maintenance.

Please replace the second and third full paragraphs on page 27 with the following paragraphs rewritten in amendment format:

The specific embodiments herein are not necessarily restricted for the use of pallet rack impact protection. The inventor ~~realises~~ realizes that it can be applied to any orientation of any column or structure that would benefit from impact protection.

It is acknowledged by the inventor that ~~whilst~~ while the impact protector is in position, visual safety inspections of the rack upright will entail sliding the device up and then back down. ~~Whilst~~ While this task may be relatively easy, an additional feature to



the embodiments may be developed once the impact performance of the device is established by an independent impact testing authority. The additional feature comprises a polycarbonate outer sheath to the device that shall only fail to crack propagation from forces that would exceed the devices impact tolerance. Alternatively, a similar polycarbonate insert [[that]] could be inserted between the device and the front face of the rack that could then be easily removed and re-inserted for visual inspection purposes.

Please replace the paragraph labeled as “iii)” on page 31 with the following paragraph rewritten in amendment format:

iii) ~~Colour~~Color: A ~~colour~~color which is visually uniform within the foam structure of a sheet, has been found particularly suitable. However, minor variation may be found between sheets, or occasionally in small regions of a ~~centre~~center split, due for instance to differences in cell size.

Please replace the last paragraph on page 31 with the following paragraph rewritten in amendment format:

It will be appreciated by the skilled person that the above parameters and characteristics are by way of example only, and that for each parameter stated, variation of that parameter around the stated value may give acceptable performance. In particular, by stating the above parameters, the [[a]] applicant discloses that each of those parameters varied individually, and or two or more parameters varied together in

any combination by plus or minus 0% to 5% may also give acceptable and workable performance, and these ranges of variation are explicitly disclosed herein.